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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,815	03/23/2005	Takashi Ishii	268185US3PCT	4193
22850	7590	07/21/2006	EXAMINER	
C. IRVIN MCCLELLAND OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			KRUER, STEFAN	
			ART UNIT	PAPER NUMBER
			3654	

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/528,815

Applicant(s)

ISHII ET AL.

Examiner

Stefan Krueer

Art Unit

3654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 - 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aulanko et al (5,429,211) in view of Wittur et al (WO 02/053486).

Re: Claim 1, Aulanko et al anticipate:

- a cage (1) guided by a pair of right and left-side guide rails (10);
- a traction sheave (7) disposed behind and near one of the guide rails (Fig. 2), with traction sheave being driven in a rotational axis;
- a driving apparatus (6) disposed behind the traction sheave;
- a counterweight (9) guide by a pair of guide rails (11) for vertical motion;
- a pair of right and left cage side sheaves (4 and 5) that suspend the cage and extend at a direction angle close to that of the rotational axis of the traction sheave (Fig. 4b);
- and a hoist rope (3) composed of a plurality of ropes wound around the traction sheave, said hoist rope suspending both cage and counterweight;

however, the rotational axis of their traction sheave extends from right and left.

Attention is directed to Wittur et al who teach their traction sheave mounted for rotation about a rotational axis extending in a forward and rearward direction (Fig. 3) to accommodate their 2:1 roping and gain the benefits of smaller sheave diameters, thereby reducing drive capacity and motor size, while enabling the use of hoisting ropes of smaller diameter, through minimized, if any, undercutting to promote their service life.

It would have been obvious to one of ordinary skill in the art to modify the reference of Aulanko et al with the teaching of Wittur et al to exploit these benefits.

Re: Claim 2, Aulanko et al disclose the cage-side rails extending to the top of the shaft (Fig. 4a, per mounting to 16).

Re: Claim 3, though Aulanko et al anticipate a plurality of ropes, he is silent regarding their diameters. Wittur et al, however, teaches ropes having a diameter of 5 to 7 mm and preferably less than 6 mm (Page 5), thereby affording incrementally finer sizing for the anticipated (rated) service loads of the cage as well as enhanced effectiveness in lubricating and cleaning the ropes, when compared to the implementation of ropes of larger diameters.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reference of Aulanko et al with the teachings of Wittur et al to gain the benefits of these commercial and performance features.

Re: Claim 4, Aulanko et al disclose an angle between the rotational axis of the traction sheave and those of the cage-side sheaves of approximately 45° (Fig.'s 3, 4b).

Furthermore, Wittur et al teach an angle of nearly 0° (Fig. 3) between their rotational axis of the traction sheave and those of the cage-side sheaves, thereby further reducing the stress on the hoisting ropes and drive components for the promotion of service life.

Re: Claim 5, Aulanko et al disclose the cage-side sheaves being disposed near the right and left sidewalls of the cage (Fig. 2).

Re: Claim 6, Aulanko et al disclose the disposition of the cage-side sheaves within a vertical projection of the cage as depicted in Figure 2 and stated as "...obvious that the hoisting ropes need not necessarily be passed under the car" (Col. 8, Line 30).

Re: Claim 7, Aulanko et al disclose the cage-side sheaves disposed symmetrically with respect to the center of the cage as depicted in Figure 4b and furthered by "Passing the ropes diagonally or otherwise obliquely ... which (sic) is an advantageous solution ...to ensure that the car is symmetrically suspended on the ropes with respect to the center of mass of the car" (Col. 8, Line 44).

Re: Claims 8 and 9, though the driving apparatus of Aulanko et al is mounted outside of the bounds of the cage, the corresponding device of Wittur et al partially overlaps the cage when seen from a vertical direction (Figures 2 and 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reference of Aulanko et al with the teachings of Wittur et al in order to minimize the twisting of the hoisting ropes for the enhancement of service life as well as the by-products of reduction in torque and the associated installation, operation and maintenance costs.

Response to Arguments

Applicant's arguments with respect to **Claims 1, 2 and 4** have been considered but are moot in view of the new ground(s) of rejection.

The terminology governing the orientation of the rotational axis of the traction sheave, as defined in the specification and applicable in the review of **Claim 1**, has been acknowledged.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bianca Edoardo (3,101,130) and Hamaguuchi (6,626,266) are cited for reference of elevator systems whereby the cage and counterweight are rail guided, and the drive device overlaps the horizontal cross-sectional view of the cage, said rails being paired and mounted on opposite sides of their respective devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Kruer whose telephone number is 571.272.5913. The examiner can normally be reached on M-F, 09:00 - 17:00 EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on 571.272.6951. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free).

SHK
17 July 2006

Kathy Matecki

**KATHY MATECKI
SUPERVISORY PATENT EXAMINER
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